CLAIMS

What is claimed is:

1. 1. A method of establishing a network resources reservation for an anticipated traffic
2. flow along a path in a network between an anticipated source and an anticipated
3. receiver of the traffic flow, wherein the anticipated receiver otherwise cannot
4. facilitate establishing the network resources reservation, the method comprising
5. the steps of:
6. detecting an RSVP Path message associated with the anticipated receiver of the
7. anticipated traffic flow at a proxy node located within the path;
8. determining whether to establish the network resources reservation;
9. generating an RESV message to reserve network resources for the anticipated
10. traffic flow; and
11. communicating the RESV message to the anticipated source of the anticipated
12. traffic flow

1. 2. A method as recited in claim 1, further comprising the step of determining one or
2. more device and traffic parameter values associated with the anticipated traffic
3. flow, and wherein the step of generating the RESV message comprises the step of
4. generating the RESV message based on at least one of the device and traffic
5. parameter values.

1. 3. A method as recited in claim 1, further comprising the steps of:
2. receiving predefined policy information;
3. generating the RESV message based on the predefined policy information.

1. 4. A method as recited in claim 1, wherein the step of determining whether to initiate
2. an RSVP reservation process includes the steps of:
3. determining one or more network parameter values associated with the anticipated
4. traffic flow;

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5   determining one or more transport parameter values associated with the

6   anticipated traffic flow;

7   determining next and previous hop parameter values associated with the

8   anticipated traffic flow; and

9   correlating at least one of the ascertained network parameter, transport parameter,

10   next hop parameter, and previous hop parameter values with information

11   defining a relationship between them and whether a RESV message is

12   desired.

1   5. A method as recited in claim 4, wherein determining the network parameter values

2   and ascertaining the transport parameter values includes the steps of determining

3   at least one of the source and receiver IP addresses, source and receiver port

4   numbers, and transport protocol based on values carried in objects in the RSVP

5   Path message.

1   6. A method as recited in claim 4, wherein determining the anticipated traffic flow

2   characteristics includes determining at least one of the rate and size of packets

3   associated with the anticipated traffic flow.

1   7. A method as recited in claim 4, further comprising the steps of extracting one or

2   more additional anticipated traffic flow attributes from the RSVP Path message.

1   8. A method as recited in claim 7, wherein the anticipated receiver is an IP phone,

2   and further comprising the step of determining at least one quality of service

3   parameter associated with the anticipated traffic flow.

1   9. A method as recited in claim 1, further comprising the steps of:

2   communicating the RESV message along at least a subset of an anticipated path

3   defined, at least in part, by the RSVP Path message;

4   receiving the RSVP Path message at one or more devices along the anticipated

5   path.

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10. A method as recited in claim 1, wherein the step of detecting an RSVP Path message comprises the step of detecting an RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a proxy node that is logically positioned adjacent to the path.

11. A computer readable medium comprising one or more sequences of instructions for facilitating an RSVP reservation process, for an anticipated traffic flow anticipated to be received by an anticipated receiver that cannot facilitate an RSVP reservation process for the anticipated traffic flow, wherein when the instructions are executed by one or more processors, the instructions cause the one or more processors to carry out the steps of:

detecting an RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a proxy node located within the path;

determining whether to establish the network resources reservation;

generating an RESV message to reserve network resources for the anticipated traffic flow; and

communicating the RESV message to the anticipated source of the anticipated traffic flow.

12. A computer-readable medium as recited in claim 11, further comprising the step of determining one or more device and traffic parameter values associated with the anticipated traffic flow, and wherein the step of generating the RESV message comprises the step of generating the RESV message based on at least one of the device and traffic parameter values.

13. A computer-readable medium as recited in claim 11, further comprising the steps of:

receiving predefined policy information;

generating the RESV message based on the predefined policy information.

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14. A computer-readable medium as recited in claim 11, wherein the step of determining whether to initiate an RSVP reservation process includes the steps of:

determining one or more network parameter values associated with the anticipated traffic flow;

determining one or more transport parameter values associated with the anticipated traffic flow;

determining next and previous hop parameter values associated with the anticipated traffic flow; and

correlating at least one of the ascertained network parameter, transport parameter, next hop parameter, and previous hop parameter values with information defining a relationship between them and whether a RESV message is desired.

15. A computer-readable medium as recited in claim 14, wherein determining the network parameter values and ascertaining the transport parameter values includes the steps of determining at least one of the source and receiver IP addresses, source and receiver port numbers, and transport protocol based on values carried in objects in the RSVP Path message.

16. A computer-readable medium as recited in claim 14, wherein determining the anticipated traffic flow characteristics includes determining at least one of the rate and size of packets associated with the anticipated traffic flow.

17. A computer-readable medium as recited in claim 14, further comprising the steps of extracting one or more additional anticipated traffic flow attributes from the RSVP Path message.

18. A computer-readable medium as recited in claim 17, wherein the anticipated receiver is an IP phone, and further comprising the step of determining at least one quality of service parameter associated with the anticipated traffic flow.

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1   19.   A computer-readable medium as recited in claim 11, further comprising the steps
2   of:
3   communicating the RESV message along at least a subset of an anticipated path
4   defined, at least in part, by the RSVP Path message;
5   receiving the RSVP Path message at one or more devices along the anticipated
6   path.

1   20.   A computer-readable medium as recited in claim 11, wherein the step of detecting
2   an RSVP Path message comprises the step of detecting an RSVP Path message
3   associated with the anticipated receiver of the anticipated traffic flow at a proxy
4   node that is logically positioned adjacent to the path.

1   21.   A system for establishing a network resources reservation for an anticipated traffic
2   flow along a path in a network between an anticipated source and an anticipated
3   receiver of the traffic flow, wherein the anticipated receiver otherwise cannot
4   facilitate establishing the network resources reservation, the system comprising:
5   means for detecting an RSVP Path message associated with the anticipated
6   receiver of the anticipated traffic flow at a proxy node located within the
7   path;
8   means for determining whether to establish the network resources reservation;
9   means for generating an RESV message to reserve network resources for the
10   anticipated traffic flow; and
11   means for communicating the RESV message to the anticipated source of the
12   anticipated traffic flow.

1   22.   A network device that can establish a network resources reservation for an
2   anticipated traffic flow along a path in a network between an anticipated source
3   and an anticipated receiver of the traffic flow, wherein the anticipated receiver
4   otherwise cannot facilitate establishing the network resources reservation, the
5   network device comprising:

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6   a network interface;

7   a processor coupled to the network interface and receiving network messages from

8   the network through the network interface;

9   a computer-readable medium comprising one or more stored sequences which,

10   when executed by the processor, cause the processor to carry out the steps

11   of:

12   detecting an RSVP Path message associated with the anticipated receiver

13   of the anticipated traffic flow at a proxy node located within the

14   path;

15   determining whether to establish the network resources reservation;

16   generating an RESV message to reserve network resources for the

17   anticipated traffic flow; and

18   communicating the RESV message to the anticipated source of the

19   anticipated traffic flow.

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